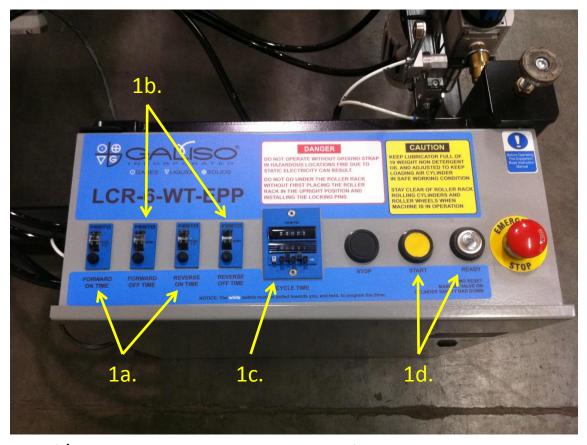
Pneumatic control troubleshooting step 1

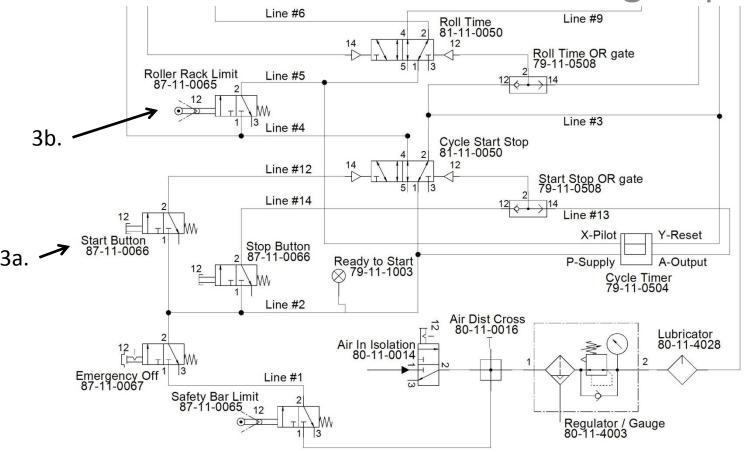


- 1a. Set Forward/Reverse on time to 20 seconds
- 1b. Set Forward/Reverse off time to 2 seconds
- 1c. Set Cycle time to 2 minutes
- 1d. Verify that the yellow ready light is on and press the yellow start button
- 1e. Verify that roller rack lowers and when rack is down that rollers begin to roll in both directions and that the roller rack goes back up after the 2 minute cycle completes

Pneumatic control troubleshooting step 2

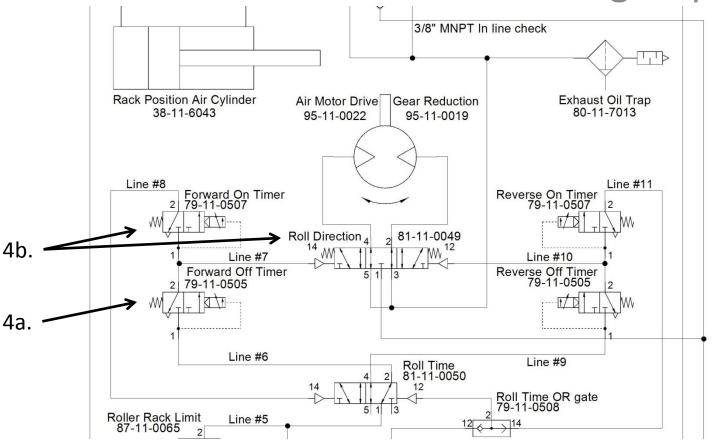


Pneumatic control troubleshooting step 3



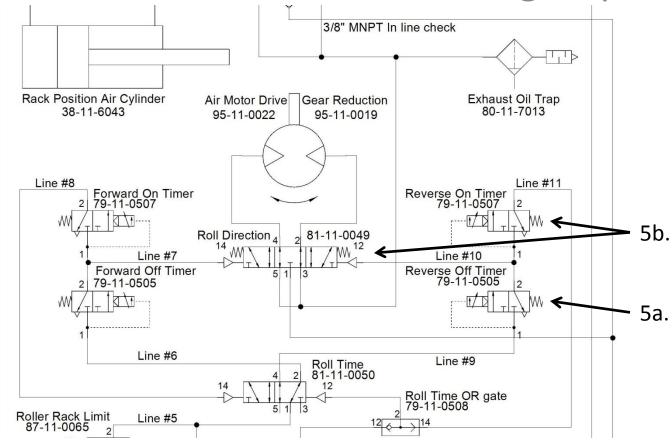
3a. When the Start Button is pressed a momentary air signal is sent to Line #12 that changes the continuous air output from the Cycle Start Stop from Line #3 (Stop) to Line #4 (Start) 3b. When the Roller Rack Limit switch is pushed in by the Roller Rack a continuous air signal is sent to Line #5 which provides supply air to the Roll Time 5 way valve circuit and a Pilot signal to port X that starts the Cycle timer

Pneumatic control troubleshooting step 4



- 4a. When air is supplied to the Roll Time 5 way valve it is first sent to Line 6 which starts the Forward Off Timer.
- 4b. At the end of the 2 second Forward Off Time, air is sent to Line #7 which is connected to both the Roll Direction 5 way valve and the Forward on timer. This runs the Air Motor Drive in the Forward direction for the 20 second Forward on time.

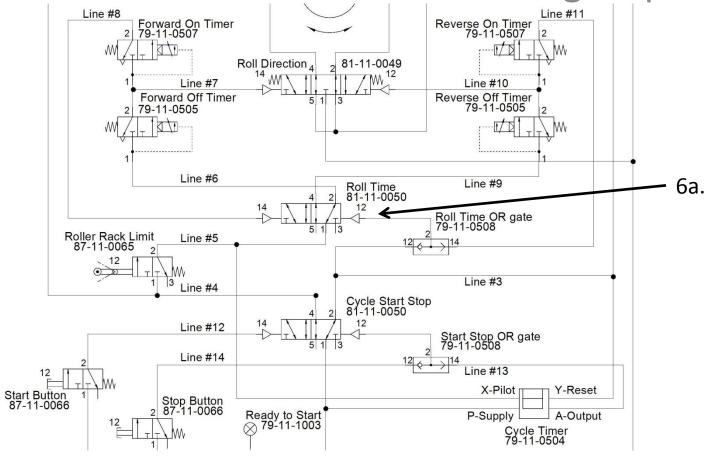
Pneumatic control troubleshooting step 5



5a. At the end of the Forward time, air is sent on Line #8 to port 14 of the Roll Time 5 way valve which changes the valve position to send air from the supply port to Line #9 which starts the Reverse Off Timer time of 2 seconds.

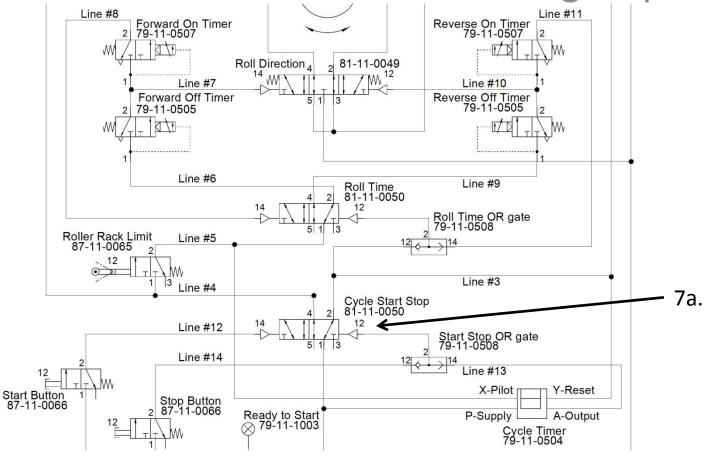
5b. At the end of the 2 second Reverse Off Time, air is sent to Line #10 which is connected to both the Roll Direction 5 way valve and the Reverse on timer. This runs the Air Motor Drive in the Reverse direction for the 20 second Reverse on time.

Pneumatic control troubleshooting step 6



6a. At the end of the Reverse On time, air is sent on Line #11 through the Roll time OR gate to port 12 of the Roll Time 5 way valve which changes the valve position to send air from the supply port to Line #6 which again starts the Forward Off Timer time of 2 seconds and then the Forward On Timer for 20 seconds. Cylinder rolling in both directions continues in this manner until the Cycle time of 2 minutes is complete or the Stop Button is pressed

Pneumatic control troubleshooting step 7



7a. At the end of the Cycle time of 2 minutes or when the Stop Button is pressed an air signal is sent through the Start Stop OR gate to port 12 of the Cycle Start Stop 5 way valve. This air signal changes the Cycle Start Stop valves air output from Line #4 back to Line #3 which stops the cylinder rolling process and returns the cylinder Roller Rack to the upright position